The Conventional Past, Behavioral Present, and Algorithmic Future of Risk and Finance

Philip Z. Maymin, Trefz School of Business, University of Bridgeport, Bridgeport, CT
Maymin, Philip Z. (2018), Finance - Challenges of the Future 20, 74-84.

Conventional Past: Linear

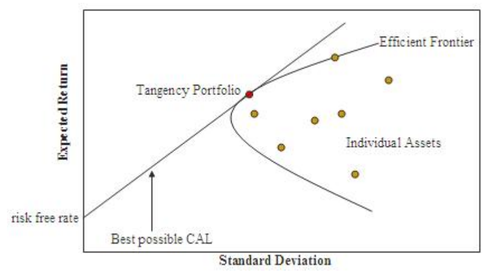
Data: CRSP, ***Approach***: Sorts and deciles, ***Techniques***: Regressions

$$R_i - R_f = \alpha_i + \beta_i(R_M - R_f)$$
$$R_i - R_f = \alpha_i + \beta_i(R_M - R_f) + \beta_{i,2}SMB + \beta_{i,3}HML$$
$$R_i - R_f = \alpha_i + \beta_i(R_M - R_f) + \beta_{i,2}SMB + \beta_{i,3}HML + \beta_{i,4}MOM$$

Risk: the **market** determines risk factors.

Government: regulation will have **no effect**.

Finance: you have **no alpha**, so you should invest passively.



Behavioral Present: Biases

Data: Surveys, ***Approach***: Limits to arbitrage, ***Techniques***: Decision theories

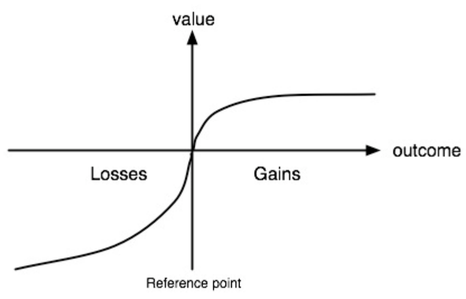
Pricing anomalies: 3Com/Palm, closed-end funds, small caps, momentum

Behavioral anomalies: excess trading, too many funds

Risk: **psychology** determines risk factors

Government: regulation will **work**.

Finance: you have **negative alpha**, so you should not trade.



Algorithmic Future: Heuristics

Data: High frequency, ***Approach***: Exploration, ***Techniques***: Computer science

Risk: risk factors may be **uncomputable**.

Government: regulation will **backfire**.

Finance: you can find **positive alpha**, so you should keep looking.